

Business Feasibility Analysis of Vaname Shrimp (*Litopenaeus vanname*) Cultivation Through Demonstration Farming in Barru Districk

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Received: 05 Oct 2021; Received in revised form: 13 Dec 2021; Accepted: 21 Dec 2021; Available online: 30 Dec 2021

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Abstract— Shrimp vaname (*Litopenaeus vanname*) is one of the fishery commodities that become prima donna in the export market. Barru Regency is one of the areas that has the potential in developing vaname shrimp farming business with a land area owned by 2,500.11 ha. But the great potential is not accompanied by national shrimp productivity, one of the causes is the lack of awareness of cultivators in accepting technological innovation and lack of capital in applying cultivation technology. This research describes the Demonstration Farming program set by KKP with the aim of assisting cultivators in implementing new technologies through group cooperation. The study was conducted by qualitative method using descriptive analysis to describe the process of implementing demonstration farming program in Barru Regency. Quantitative methods use business feasibility analysis with Net Present Value (NPV), Net Benefit-Cost Ratio (Net B/C) and Internal Rate of Return (IRR) indicators. The results showed that (NPV) has a value of IDR. 418,514,544; (NetB/C) has a value of 2.24; and (IRR) has a value of 46.07%. The results of the analysis of vaname shrimp farming business through the Demonstration Farming program in Barru Regency are said to be feasible to run.

Keywords— Business Feasibility, Demonstration farming, Vaname Shrimp Cultivation

I. INTRODUCTION

The potential for shrimp cultivation development in Indonesia is very open because of the biophysical conditions of the waters that strongly support farm cultivation and the market is still very open, both abroad and nationally. Shrimp as the main commodity of Indonesian fishery exports that became prima donna by contributing a share of 34.83% of the total export value (KKP, 2021). The direction of aquaculture development policy by the government aims to increase production by policy transformation through sustainable management of aquaculture resources.

The use of advanced technology in the process of fisheries development is one of the absolute conditions in the development. The use of technology used in the process of

fisheries development including aquaculture in farmland will not be separated from technological advances, especially if there is a desired change towards the progress of aquaculture itself. This can be seen one of them with the difference in the level of use of technology applied by shrimp farming communities in the field ranging from traditional to intensive, even super intensive (Yanti, 2015).

The difference in the level of this technology will further have implications for the financing needed in the implementation of shrimp farming activities. In this case it can be argued that traditional technology requires less financing than technology intensive. To increase the production and productivity of ponds today is not easy, because there is a reluctance to accept new technologies that have not been practiced and seen directly the accuracy

in increasing productivity, as well as trauma experienced due to failure and material losses that are not a little invested in the pond due to disease attacks that cause crop failure.

In this case, the government took a role by rolling out the Demonstration Farming program which is a stimulant to stimulate the interest of shrimp farmers in increasing the knowledge and support of members of farming groups / fishermen and setting an example to apply new technologies through group cooperation. Demonstration farming can optimize ideal land, minimize failure and increase productivity and be environmentally friendly to maintain business continuity.

The program rolled out by the KKP established one of the regions in South Sulawesi province, Namely Barru Regency as a pilot in the Demonstration farming program. Barru Regency is one of the areas in South Sulawesi province that has the potential of vaname shrimp cultivation and has a cultivation area of 2,500.11 ha. Vaname shrimp cultivation system in Barru Regency there are 4 types namely (DKP, 2021): traditional pond (828.71 Ha), simple (1,484.67 Ha), semi intensive (130.05 Ha) and intensive (56.68 Ha). The largest number of farm land use with traditional and simple systems amounted to 92% of the total vaname shrimp cultivation land in Barru Regency.

The main problem in the vaname shrimp farming system is in the source of capital. The greater the capital owned, the use of technology in the cultivation system is growing. With the condition of pond cultivation carried out by individuals will always have difficulty to develop their business both from capital sources and human resources. Demonstration Farming program by means of cultivation application carried out in the form of groups will facilitate the development in receiving capital assistance and the cultivation system will be more well organized.

Based on the above problems, the government's efforts in dealing with these problems by optimizing production and productivity require effective and efficient adaptive technology through demonstration farming pilots in vaname shrimp farming business. Financial business analysis shows the success rate in the vaname shrimp farming business that is being run. Financial business analysis includes total business costs, receipts, profits, Net Benefit-Cost Ratio (Net B/C) analysis, Net Present Value (NPV) analysis and Internal Rate of Return (IRR) analysis. Based on the above, the puIDRose of this study is to find out the amount of income and feasibility of the vaname shrimp farm cultivation business in the application of Demfarm in Barru Regency.

II. METHODOLOGY

2.1. Location and Time of Research

This research will be conducted from November 2020 to June 2021 in Barru Regency, South Sulawesi Province.. This location was chosen deliberately (puIDRose) with the consideration that Barru Regency is one of the areas that implement demonstration farming program, with the aim to increase the productivity of vaname shrimp in Barru Regency.

2.2. Sampling Methods

The population in the study was a vaname shrimp farmer who received assistance from the Demonstration Farming program. The total number of vaname shrimp farm farmers in Barru Regency who received demfarm program assistance as many as 37 people who were divided into 2 groups of cultivators or Pokdakan, among others (DKP, 2020): Pokdakan Rezky Flow (21 people) Balusu Subdistrict and Pokdakan Sipatangae (16 people) Tanete Rilau District.

The sampling technique in this study is puIDRose sampling. PuIDRose sampling is a sampling technique with certain considerations (Sugiyono, 2013) that this research sample is a group of recipients of the demonstration farming program specifically vaname shrimp in Barru Regency.

2.3. Types and Sources of Data

The type of research used is survey research. Survey research is a study that takes samples from one population and uses questionnaires as a basic data gathering tool (Singarimbun, 2008). To answer the puIDRose of the research, researchers use qualitative and quantitative analysis.

The data sources used in this study are primary data and secondary data. Primary data sources are obtained through documentation and interviews with pokdakan which includes the process of implementing the program, financial analysis, as well as the level of income and productivity of vaname shrimp during the Demfarm program. Secondary data is obtained from literature studies or literature studies that are relevant or related to the Demfarm program, data from the Fisheries Office and the Central Bureau of Statistics of Barru Regency, the results of reports, as well as previous research that can support research studies.

2.4. Data Analysis Methods

The data analysis method used is a mix method that is qualitative and quantitative methods. Qualitative methods are carried out descriptively according to analysis (Sugiyono, 2013) is a method that serves to describe or give an overview of the objects studied through data or samples that have been collected as is without conducting analysis and making conclusions that apply to the public.

Descriptive analysis is used to describe the implementation of demonstration farming program in Barru Regency which was implemented from 2019 to 2020.

Quantitative methods are used to determine the level of profit and feasibility of vaname shrimp farming business during the running of demonstration farming program. To find out the amount of production and profits received from the cultivation of vaname shrimp during the Demfarm program used the following equations (Bangun, 2010):

$$\Pi = TR - TC$$

Where :

Π = Net Profit (IDR)

TR = Total Revenue (IDR)

TC = Total Cost (IDR)

To search for Total Acceptance can be used formula as follows (Wake, 2010):

$$TR = Q \times P$$

Where :

TR = Total Revenue (IDR)

P = Price (IDR)

Q = Quantity (Kg)

As for finding the Total Cost can be used formula (Bangun, 2010):

$$TC = FC + VC$$

Where:

TC = Total Cost (IDR)

VC = Variable Cost (IDR)

FC = Fixed Cost (IDR)

To calculate the feasibility of a business from the cultivation of vaname shrimp during the Demfarm program, use the calculations of NPV, Net B / C and IRR with the following calculation methods:

Net Present Value (NPV) can be formulated as follows (Pasaribu, Yusuf, & Amiluddin, 2004):

$$NPV = \sum \frac{B_t - C_t}{(1+i)^t}$$

Where:

Bt = annual gross income

Ct = Annual gross expense

$(1+i)^t$ = discount factor (DF)

T = interest rate

The decision-making criteria are based on:

NPV > 0, meaning that shrimp farming efforts are worth working on.

NPV = 0, meaning that shrimp farming business is as large as the value invested with the amount of value produced.

NPV < 0 means that the shrimp farm cultivation business is worth trying.

Net benefit-Cost ratio (Net B/C) can be formulated as follows (Primyastanto, 2011):

$$Net\ B/C = \frac{\sum_{t=0}^{t=n} NPV (+)}{\sum_{t=0}^{t=n} NPV (-)}$$

Where :

NPV (+) = NPV positif value

NPV (-) = NPV negative value

Internal Rate of Return (IRR) can be use formulated as follows (Pasaribu, Yusuf, & Amiluddin, 2004) :

$$IRR = i' + \left(\frac{NPV'}{NPV' - NPV''} \right) (i'' - i')$$

Where:

i' = Interest rates that generate positive NPV

i'' = The interest rate that generates negative NPV

NPV ' = NPV at interest rate i'

NPV '' = NPV at interest rate i''

The decision-making criteria are based on:

IRR > i1 = shrimp farm cultivation efforts are considered feasible

IRR < i1 = shrimp farm cultivation efforts are considered unfit

III. RESULTS AND DISCUSSION

The implementation of a policy is basically a change or transformation that is multiorganization, where the changes implemented through the implementation strategy of this policy connect various layers of society. Demfarm program implemented in Kab. Barru involves various elements or institutions both government and private, demfarm program prioritizes a partnership system. Currently, the partnership system has been running well by involving several institutions, namely the Directorate General of Aquaculture through UPT Kab. Barru which monitors the production process, pest control and pond environment. Partners for production needs such as seedlings, feed, and medicines involve third parties who cooperate with PT. Esa Putli Barru and CV. Irawan. The

extension team plays a role in accompanying pokdakan during the cultivation process ranging from land preparation to post-harvest.

Demonstration farming in Barru Regency through socialization activities carried out by the extension team under the supervision of the Marine and Fisheries Service. After that the extension team conducted a direct survey to demfarm location who will receive assistance and direction from the activity. Demfarm activities are a series of shrimp pond production processes in an integrated manner by applying technology, namely the use of watermills in traditional types of ponds whose puIDRose is to increase shrimp production. Demfarm's activities involve various elements such as government, private, partners, and prospective recipients of assistance (pokdakan).

The formation of a group of fish farmers (pokdakan) is one of the conditions in implementing Demfarm activities. Prospective recipients of demfarm program assistance must submit to the extension by attaching a budget proposal for activities. The group that had been formed under the supervision of the extension team was then submitted to the Barru Regency DKP office. The submission of the establishment of pokdakan must attach some requirements that have been set, such as a notary deed as proof of land ownership and not in dispute status, SKT, has a KUSUKA card (fisheries business card), a group of at least 10 people. Once all the requirements are met, the pokdakan already has the status as a prospective recipient of Demfarm program assistance.

The role of the private sector in the Demfarm program is to facilitate benur, feed and medicines to be used during the cultivation process. The partners participating in this program are PT. Irawan as a supplier of feed and medicine and PT. Benur Kita as a supplier of vaname shrimp benur. As for the needs of facilities and infrastructure such as ferris wheels, waterways, and fertilizers will be facilitated by the government. The Ministry of Marine Affairs and Fisheries through the Barru Regency Aquaculture Production Business Service Center provides technician assistance ranging from the application of technology, disease pest control and water quality. Technicians will give directions to pokdakan in each stage of cultivation and will conduct disease control and water quality every two weeks. Assistance by tekisi is carried out ranging from land preparation, water intake, benur spreading, shrimp maintenance, harvesting process to post-harvest.

Demfarm program has the main goal of changing the mindset of petambak from individually to communal

(cluster system) and strengthen the entrepreneurial spirit among traditional farmers. The traditional way that shrimp farmers do, especially in Balusu and Tanete Rilau sub-districts in Barru Regency in the lau currently began to switch to the use of cultivation technology. Based on the results of research on intensive adoption of shrimp farming technology through the implementation of demonstration farming program in Karawang Regency shows that farmers who receive the program can adopt 91% of the overall technology recommended in intensive shrimp cultivation. The improvement of cultivation technology is inseparable from the institutional development of the cultivation group to be able to strive economically and profitably (Sukardi, 2002). Another thing that by increasing the productivity of farmland has a more positive impact compared to expanding cultivated land (Mu'tamar, et al 2013). Another advantage of this program is the establishment of good cooperation and synergy between farmers and governments, partners and stakeholders to advance and develop the national shrimp industry as had been achieved in the previous decade.

3.1 Financial Analysis of Vaname Shrimp Farm Cultivation Business

Feasibility study is a research study conducted on an institution on a particular project that is being or will be implemented. According to (Primyastanto, 2011) this study is used to provide direction on whether investments in certain projects are worth implementing or not, on the basis of *risk and uncertainty* in the future, multidisciplinary studies are needed before taking place.

Financial business analysis shows the success rate in the vaname shrimp farming business that is being run. Financial business analysis includes total business costs, receipts, profits, *Net Benefit-Cost Ratio* (Net B/C) analysis, *Net Present Value* (NPV) analysis and *Internal Rate of Return* (IRR) analysis. To find out the benefits of the vaname shrimp farm cultivation business in the application of Demfarm in Barru Regency, it is necessary to know the amount of investment, fixed costs, variable costs, total costs, receipts and the level of profit obtained in each production process of vaname shrimp ponds.

3.1.1. Vaname Shrimp Farming Business Investment

Investment is investment in an activity that has a relatively long period of time in various business fields (Amiluddin, et al 2020).

To see the amount of investment in vaname shrimp farming business can be seen in the following table.

Table 1. Average value of investment in vaname shrimp farming business

No.	Type of Investment	Average Investment Value (IDR)	Percentage (%)
1.	Farmland	238,648,649	82.5
2.	Generator set	7,658,000	2.6
3.	Water pump	4,917,189	1.7
4.	Ferris wheel	15,105,405	5.2
5.	Waring	21,628,378	7.5
6.	Anco	360,811	0.1
7.	Harvest mesh	913,514	0.3
8.	Spiral hose	173,020	0.1
TOTAL		289,404,966	100

Source: Primary data after processing, 2021.

Based on the results of interviews and data analysis, it can be seen the components and value of investment in the business of shrimp farming vaname simple patterns in Barru Regency which includes farmland, generator sets, water pumps, ferris wheels, waring, anco and harvest roads. The average land area owned by demfarm program recipients is between 0.7 ha to 5 ha. Based on table 1 above it is known that the total average investment value is IDR. 289,404,966.

In the implementation of the Demfarm program, the government provides some assistance for investment value to pokdakan, namely in the form of water pumps, ferris wheels and generator sets. Demfarm program is designed to give stimulants to cultivators who still apply traditional pattern ponds to increase into simple or traditional plus patterns. The puIDRose of this program is

to increase the productivity of vaname shrimp cultivated in Barru Regency.

3.1.2. Vaname Shrimp Farming Business Costs

3.1.2.1. Fixed Cost (*Fix cost*)

A fixed cost is a cost that within a given period of amount is fixed, and does not depend on the amount of production. The fixed cost in question is the main capital and the result of the amount of depreciation costs in a year from investment of farmland, generator sets, water pumps, ferris wheels, waring, anco and harvest roads. The average amount of depreciation costs on the investment value of vaname shrimp farming business can be seen in the table below;

Table 2. Average depreciation cost / year on investment of vaname shrimp farming business

No.	Type of Investment	Average Depreciation Value (IDR)	Percentage (%)
1.	Farmland	23,864,865	72.4
2.	Generator set	1,914,500	5.8
3.	Water pump	983,438	3.0
4.	Ferris wheel	3,021,081	9.2
5.	Waring	2,703,547	8.2
6.	Anco	120,270	0.4
7.	Harvest mesh	182,703	0.6
8.	Spiral hose	173,020	0.5
TOTAL		32,963,424	100

Source: Primary data after processing, 2021.

Based on table 2 above it is known that the average depreciation cost in the business of cultivating a simple pattern of vaname shrimp ponds with the highest value is pond land of IDR. 23,864,865 with a percentage of 72.4%, while the average lowest depreciation value is anco of 120,270. The total average depreciation value that must be incurred per year is IDR. 32,963,424 which is the total fixed cost (Fix cost).

Table 3. Average variable cost/year in vaname shrimp farming business

No.	Kind	Average Variable Cost (IDR)	Percentage (%)
1.	Benur	28,637,838	21
2.	Feed	40,199,351	29
3.	Lime	10,739,189	8
4.	Fertilizer	3,436,541	2
5.	Drugs	17,280,000	13
6.	Saponents	1,055,676	1
7.	Solar generator set	28,662,162	21
8.	Workforce	7,617,568	6
TOTAL		137,628,324	100

Source: Primary data after processing, 2021.

Based on table 3 above it is known that the average variable cost incurred by the farmer of a simple pattern vaname shrimp pond with the highest value at feed cost of IDR. 40,199,351, while the average variable cost with the lowest value on saponent costs is IDR. 1,055,676. The total average variable cost to be incurred amounted to IDR. 137,628,324 per year.

3.1.2.2. VariableCost (Variable cost))

Veriabel cost is the amount of production costs that change according to the high amount of output to be produced. The greater the output or goods that will be produced, the greater the variable costs that will be incurred. The variable costs in question are benur, feed, lime, fertilizer, medicines, saponents, solar generators and labor.

3.1.2.3. Total Cost (Total cost)

The total cost is the overall amount of production costs incurred (Bangun, 2010) which is the total sum of fixed costs with variable costs incurred in the period of one year. The average total cost incurred by shrimp farm farmers vaname simple patterns in one year can be seen in the table below;

Table 4. Average total cost/year of vaname shrimp farming

Type of Cost	Average Value (IDR)	Percentage (%)
Fixed costs	32,963,424	19.3
Variable Cost	137,628,324	80.7
TOTAL	170,591,749	100

Source: Primary data after processing, 2021.

Based on table 4 above it is known that the average total cost incurred by the farmers of a simple pattern vaname shrimp pond during the one-year period is IDR. 170,591,749 which is divided from fixed costs of IDR. 32,963,424 and variable costs of IDR. 137,628,324.

3.1.3. Acceptance of Vaname Shrimp Farming Business

Business acceptance is the total income received by farmers from the activities of the sale of vaname shrimp that has not been reduced by the total cost. The average value of receipts in shrimp farming business vaname simple pattern for production for one year can be seen in the table below;

Table 5. Average value of receipts / year in vaname shrimp farming business

Price (IDR/Kg)	Average amount/year (kg)	Average receipt/year (IDR)
50,000	7,159	357,972,973

Source: Primary data after processing, 2021.

Based on table 5 above it is known that the average amount or yield in the business of shrimp farming vaname simple pattern in one year amounted to 7,159 Kg with an average total annual receipt of IDR. 357,972,973. The price that applies at that time is IDR. 50,000 for the sale of vaname shrimp with an average size of 50-60.

The large number of receipts from the cultivation of vaname shrimp is influenced by the level of use of cultivation technology applied through the Demfarm program. Based on the results of the interview to pokdakan which stated that before the implementation of the Demfarm program, the average harvest received was only 400-600 kg / Ha peaches and after receiving the Demfarm program the average yield received was 700-1000 kg / Ha peaches. This is in accordance with the results of research conducted by (Rahman, 2015) in Blanakan Subdistrict which became one of the central areas of demfarm

program in an effort to increase pond productivity. The results of the research conducted stated that the development of pond business with Demfarm system was able to increase the productivity of ponds by 7.00-7.50 tons / Ha or 7000-7500 kg / Ha, where such conditions provide support in the development of pond businesses.

3.1.4. Benefits of Vaname Shrimp Farming Business

Profit is the difference between the results of production sales and business costs incurred. The small amount of profit obtained by cultivators is influenced by the small cost of production incurred. Meanwhile, the small cost of production incurred affects the size of the land owned. As for the average profit received by shrimp farmers vaname simple patterns can be seen in the table below;

Table 6. Average profit/year in vaname shrimp farming business

Average receipt/year (IDR)	Average Cost/year (kg)	Average Profit/year (IDR)
357,972,973	170,591,749	187,381,224

Source: Primary data after processing, 2021.

Based on table 6 above it is known that the average profit received by shrimp farmers vaname simple pattern in one year amounted to IDR. 187,381,224. The amount of profit received by cultivators varies according to the area of land owned. The larger the land for the cultivation of vaname shrimp, the greater the production costs needed, the greater the crop and profits received from the shrimp farming business.

3.2. Business Faesibility Analysis

feasibility studies are used to provide direction whether investment in a particular project is feasible or not. On the basis of risk and uncertainty (risk and

uncertainty) in the future, a multidisciplinary study is needed before making a decision (Primyastanto 2011). The total profit received in the vannamei shrimp farming business is not a measure of the success of the business to be maintained. After knowing the level of profit in vaname shrimp cultivation, it is necessary to analyze the feasibility of the business to see whether the business is feasible to run or will suffer losses in the next few years. The feasibility analysis used in this study uses indicators of Net Present Value (NPV), Net Benefit-Cost Ratio (Net B/C) and Internal Rate of Return (IRR), as follows:

Table 7. Financial and Feasibility Analysis in Shrimp Cultivation Business

No	Cash flow	Project Year					
		0	1	2	3	4	5
A	Inflow		357,972,973	369,821,878	382,062,983	394,709,267	407,774,144
B	Outflow						
1	DF 14%	1	0.877	0.769	0.675	0.592	0.519
2	Investment						
	Fee						
	Land						
a		238,648,649					
	generator						
b		7,658,000					7,658,000
c	Water pump	4,917,189					
	Ferris wheel						
d		15,105,405					
	Waring						
e		21,628,378					
	Anco						
f		360,811				360,811	
	Harvest Net						
g		913,514					
	Spiral hose						
h		173,020					
	Total Investment	289,404,966				360,811	7,658,000
3	Variable Cost						
	Seeds						
a			28,637,838	29,030,176	29,427,890	29,831,052	30,239,737
	feed						
b			40,199,351	40,750,082	41,308,359	41,874,283	42,447,961
	Chalk						
c			10,739,189	10,886,316	11,035,459	11,186,644	11,339,901
	Fertilizer						
d			3,436,541	3,483,621	3,531,347	3,579,726	3,628,768
	Drugs						
e			17,280,000	17,516,736	17,756,715	17,999,982	18,246,582
	Saponens						
f			1,055,676	1,070,138	1,084,799	1,099,661	1,114,726
	solar generator						
g			28,662,162	29,054,834	29,452,885	29,856,390	30,265,422
	Labor						
h			7,617,568	7,721,928	7,827,719	7,934,958	8,043,667

	Total Variable Cost		137,628,324	139,513,832	141,425,172	143,362,697	145,326,766
4	Total Outflow	289,404,966	137,628,324	139,513,832	141,425,172	287,447,015	305,969,531
5	Outflow 14%	289,404,966	120,726,600	107,351,364	95,457,963	170,191,709	158,910,987
C	Net Cash Flow	(289,404,966)	220,344,649	230,308,046	240,637,811	107,262,252	101,804,613
	NCF 14%	(289,404,966)	193,284,780	177,214,563	162,423,668	63,507,864	52,874,126
D	PV Positif	649,305,000					
E	PV negatif	(289,404,966)					
F	NPV	418,514,544					
G	IRR	46.07%					
H	NET B/C	2.24					

Source: Primary data after processing, 2021

3.2.1. Net Present Value (NPV)

Net Present Value (NPV) can be defined as the present value of cash flows generated by investments. Based on the results of the analysis on vaname shrimp cultivation in Barru Regency after the implementation of the Demfarm program, it is financially feasible to run. The results of the analysis of the data contained in table 7 are known that the feasibility value of the simple pattern vaname shrimp farming business with the indicator Net Present Value (NPV) has a value of IDR. 418,514,544. This can be seen from the Net Present Value (NPV) which has a positive number (greater than zero) at the applicable interest rate in 2020 of 14% which means the business will benefit with a positive residual value at the end of the year of activity, with 5 year project period.

3.2.2. Net Benefit-Cost Ratio (Net B/C)

Benefit and Cost Ratio (Net B/C Ratio) is a method of calculating the comparison between the present value of future net cash receipts and the present value of the investment. In the analysis of the Net Benefit-Cost Ratio (Net B/C) obtained from the comparison of positive net benefits and negative net benefits, it is the profit value that will be obtained from every one rupiah of costs (costs) incurred during the life of the business at an interest rate of 14% in Indonesia. 2020. The results of the analysis of the data contained in table 7 show that the indicator Benefit-Cost Ratio (Net B/C) has a value of 2.24 which means that

every 1 rupiah spent will increase the benefit of IDR. 2.24. This is in accordance with (Nainggolan, 2018) which states that the profit-to-cost ratio (Net B/C) with a value > 0 indicates that the vannamei shrimp farming business is feasible to run. The greater the value of the profit-to-cost ratio, the greater the benefits that will be obtained from the business.

3.2.3. Internal Rate of Return (IRR)

Internal Rate Return is the interest rate that equates the present value of the expected cash outflows with the present value of the expected cash inflows, or also defined as the interest rate that causes the Net Present value (NPV) to be equal to zero. The value of internal business returns to show the level of business ability to pay interest on business loans during the life of the business is analyzed using IRR (Internal Rate of Return). The results of the analysis of the data contained in table 7 show that the indicator Internal Rate of Return (IRR) has a value of 46.07% which indicates that the vannamei shrimp farming business has the ability to pay loan interest if this business is developed using credit from formal financial institutions. This is consistent with the results of the study (Wafi.dkk, 2021) states that the value of the IRR greater than the interest rate in effect at this time, then the business 11 are eligible to run. By knowing the IRR value, the company can determine a productive business strategy during the current investment period.

IV. CONCLUSION

Implementation of the demonstration farming program on vaname shrimp cultivation in 2 sub-districts of Barru Regency succeeded in changing the mindset of farmers from the original farming individually to communal (cluster/group system) as well as strengthening the entrepreneurial spirit among the farmers. The traditional way carried out by shrimp farmers, especially in Balusu and Tanete Rilau sub-districts in Barru Regency in the past is now starting switch to the use of technology that they do on the basis of recommended technology applied to Demfarm. The implementation mechanism consists of: the whole series of cultivation processes starting from pre-production to post-harvest has been done well and can provide improvement of skills and income cultivation. Realization of program achievements carried out in accordance with the results expected, this is due to an increase the result of vaname shrimp cultivation previously only 500 kg/ha now to 1000 kg/ha.

Based on the results of the analysis on vaname shrimp cultivation business in implementation of demonstration farming program shows the level of profit with the value of the average received by cultivators in one year of Rp. 187,381,224 and the value of feasibility in the cultivation business simple pattern vaname shrimp with Net indicator Present Value (NPV) has a value of Rp. 418,514,544, the Benefit-Cost Ratio (Net B/C) indicator has a value of 2.24, and the Internal Rate of Return (IRR) indicator has a value of 46.07% and it can be concluded that the business is feasible to run.

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